



AQS Development and Enhancement Plans

AQS CONFERENCE

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AQS Development/ Enhancement Plans

- System Status
 - Development Plan
 - Data Improvements
 - Software Implemented
 - Active Development
- 



System Status

- Operational for over 8 years
 - Average of 8.3 million values per month
- For April 2010
 - 1835 Files loaded with 9.7 million values
 - » 180 users from 108 agencies
 - » 1 to 509,123 records
 - » 1400 files with 1 to 3 months data
 - » 1250 files with no errors (68 %)
 - 997 Post jobs





System Status

- Agencies reporting data (screening groups)
 - State - 55
 - Local - 42
 - Tribe - 60
 - Other - 13
- About 8,025 retrievals (31 different reports) by 334 users in April 2010
 - Usage order AMP350, 501, 430, 450, 255, 450NC - 73 %
- 745 Active registered users
 - 101 new users in last year





System Status

- Raw Data
 - Archive - 35 yrs - 1957 to 1992 500 million rows
 - » Special update only
 - Production - 17 yrs - 1993 to 2010 1.2 billion rows
 - » Freeze date - update latest 4 years
- Mature System
- AQS Disaster Recovery operational
- AQS Data Mart operational



Development Plan

- Funded for 2010
 - Operation and Maintenance
 - » Software bug resolution
 - » Disaster recovery
 - NAAQS Changes
 - » Pb - active project
 - » NO₂ - analysis/implementation
 - » SO₂ - analysis





Development Plan

- 2011 Budget Request
 - Funding Proposal
 - » Operation and Maintenance
 - » NAAQS modifications
 - SO₂ primary standard
 - Ozone – primary/secondary
 - SO₂ & NO₂ – secondary standards
 - PM – primary/secondary
 - » Exchange Network Load Change



Data Improvements

- IMPROVE Data – Year 2007
- Update TTN files quarterly by year for criteria parameters and speciation, added continuous PM2.5 data
- Created Pb site primary monitor records



Software Implemented

- Combining collocated PM2.5 data values
 - Primary monitor -new user input – Maintain Site
 - Initial primary monitor designation
 - » Lowest POC and lowest required sampling frequency
 - » Sent to regional offices for QA
 - » Agency update as sampling changes
 - Created site level combined values
 - » Combines daily and/or 24-hr average of hourly data
 - New report – AMP355
 - » Lists combined values
 - » Standard report process



New Report - AMP355

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
COMBINED SITE SAMPLE VALUES

May. 24, 2010

(00101) PM2.5 - Local Conditions

SITE ID: 01-033-1002
COUNTY: (033) Colbert
CITY: (53016) Muscle Shoals
SITE ADDRESS: WILSON DAM RD AND 2ND ST.
SITE COMMENTS: ADD TO TVA SITE 024

STATE: (01) Alabama
AQCR: (007) TENNESSEE RIVER VALLEY-CUMBERLAND MOUNTAINS
UNRAZED AREA: (0000) NOT IN AN UNRAZED AREA
LAND USE: INDUSTRIAL
LOCATION SETTING: SUBURBAN

CAS NUMBER:
LATITUDE: 34.760556
LONGITUDE: -87.650556

SUPPORT AGENCY: (0013) Al Dept Of Env Mgt
MONITOR TYPE: S1AMS
PQAO: (0013) Al Dept Of Env Mgt

REPORT FOR: 2009

UNITS: 105

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1	5			6	6	10*	9*	3*	11	9	7*	10*
2			7	10*	3*	14*	7*	9	17*	3*	9*	4*
3		5		9*	2*	19	9	9*	13*	7*	7	14*
4	7			9	4	10*	13*	19*	12	6	11*	16*
5			15	11*	7*	9*	6*	5	9*	5*	9*	12*
6		10		4*	3*	13	14	7*	7*	9*	6	11
7	4			5	7	14*	15*	21*	15	4	17*	14*
8			10	11*	14*	16*	10*	21	9*	11*	16*	11*
9				12*	6*	15	17	11*	5*	7*	10	9
10	13			13	7	11*	22*	5*	14	4	9*	7*
11			5	17*	7*	9*	24*	6	17*	5*	14*	7*
12		6		15*	12*	11	14	9*	16*	6*	3	7
13	10			9	17	5*	5*	13*	16	5	9*	5*
14			7	6*	13*	4*	9*	16	13*	4*	13*	6*
15		10		15*	13*	10	12	14*	6*	5*	11	13*
16	6			15	9*	11*	2*	11*	11	5	21*	15*
17			11	12*	7*	13*	7*	7	1*	9*	6*	14*
18		9		12*	7*	15	6	1*	3*	9*	5	4
19	7			7	9*	11*	7*	7*	4	9	11*	14*
20			5	5*	9*	12*	7*	6	5*	11*	13*	20*
21				6*	7*	14	11	4*	1*	14*	16*	19*
22	14			7	7	13*	6*	7*	10	12*	14*	15*
23			19	9*	9*	14*	13*	7	4*	4*	13*	12*
24				11*	6*	15	13	12*	10*	5*	12*	11*
25	16			11	9	16*	9*	22*	9	6*	6*	6*
26			5	12*	7*	24*	7*	21	0*	10*	5*	5*
27		9		10*	9*	21	13	20*	7	11*	7*	11
28	7			14*	9	19*	5*	10*	7	4	10*	7*
29			4	10*	9*	7*	4*	11	-1*	9*	13*	12*
30				11*	10*	9	10	12*	-1*	13*	12*	12*
31	6				11		9*	9*		4		9*
MO.:	11	6	10	30	31	30	31	31	29	31	30	31
MAX:	16	10	19	17	17	24	24	22	17	14	21	20
MEAN:	9.6	9	9.7	10.1	9.1	12.6	10.4	10.7	9.3	7.1	10.5	10.6

Note: Missing samples from the primary monitor that have been augmented with samples from collocated monitors are flagged with "**".

Note: The quarterly and annual statistics displayed in the footer represent actual statistics for those periods, irrespective of the date range specified in the report request. However, daily, monthly, and quarterly statistics displayed in the matrix are solely derived from the values on the report.

	NO	MAX	MEAN	CRED	DAYS	% CBS
QTR 1:	27	19	9.5	27	30	ANNUAL CREDIT DAYS: 301
QTR 2:	91	24	10.2	91	100	ANNUAL % CBS: 92
QTR 3:	91	24	9.9	91	99	ANNUAL WEIGHTED MEAN: 9.4
QTR 4:	92	21	9.4	92	100	ANNUAL 99th: 21

Software Implemented

- Implement the Exceptional Event Rule
 - Archive database combined with AQSPROD
 - Convert to new exceptional event codes
 - » Not converted – D, E, I, J, K, L, M, N, P
 - » Converted to RL (other) if concurred
 - Develop process to create/manage events
 - Regional concurrence based on standard





Software Implemented

- Implement the Exceptional Event Rule
 - Re-compute all summary records
 - » Multiple records with standard defined
 - » NAAQS average, Daily summaries, Quarterly and Annual Summaries
 - New retrieval – Raw Data Qualifiers
 - Date tracking to ensure time schedule met
 - Reports Modification
 - » R31 change
 - » Single record displayed
 - Discoverer EUL changes
 - » Saved queries may be invalid



Reports Modification

Find: Ozone 8-Hour %

Short_Description	Description
Ozone 8-Hour 2008	Ozone 8-hour running average stored in b
Ozone 8-Hour 1997	Ozone 8-hour running average stored in b

Report Options | Retrieve Reports

Applicable Standards Information

- NO2 Annual 1971
- Ozone 1-hour Daily 2005
- Ozone 8-Hour 2008
- PM10 24-hour 2006
- Lead 3-Month PM10 Surrogate 2009
- PM25 24-hour 2006
- PM25 Annual 2006

Generate Report

Choices in list: 2

Record: 10/14 ... List of Valu... <OSC>



Software Implemented

- Implement the design value report for ozone, PM10, & PM2.5



Active Development

- Implement the lead NAAQS
 - Create primary monitor designation
 - Sent to regional offices for QA
 - Create site level combined records
 - Create monthly summary records
 - Compute 3-month running averages
 - Modify data completeness report

